

What is claimed is:

1. A probe composition, comprising:
 - (a) a substrate;
 - 5 (b) a biopolymer probe attached to said substrate; and
 - (c) a stabilization polymer layer on said substrate, wherein said stabilization polymer layer coats said biopolymer probe.
- 10 2. The composition of claim 1, wherein said substrate comprises an array of attached biopolymer probes.
3. The composition of claim 2, wherein said substrate comprises a fiber optic array.
- 15 4. The composition of claim 2, wherein said substrate comprises an array of particles each attached to a patterned surface.
- 20 5. The composition of claim 4, wherein said patterned surface comprises wells, each well comprising a single particle of said array of particles.
6. The composition of claim 1, wherein said substrate comprises a particle.
7. The composition of claim 1, wherein said biopolymer probe is covalently attached to said substrate.
- 25 8. The composition of claim 1, wherein said biopolymer probe comprises a polynucleotide.
- 30 9. The composition of claim 1, wherein said biopolymer probe comprises a polypeptide.

10. The composition of claim 1, wherein said stabilization polymer is non-naturally occurring.

11. The composition of claim 1, wherein said stabilization polymer is
5 selected from the group consisting of polyacrylamide, polyvinylpyrrolidine, polymethylacrylate, polyethylene glycol, chitin, starch, gelatin, hyaluronic acid and agarose.

12. A method of making a probe composition, comprising
10 (a) providing a substrate comprising an attached biopolymer probe; and
(b) contacting said substrate with a stabilization polymer.

13. The method of claim 12, wherein step (b) comprises contacting said
15 substrate with a solvent comprising said stabilization polymer.

14. The method of claim 13, further comprising
(c) drying said substrate, thereby removing said solvent.

15. A method of detecting a target analyte, comprising
20 (a) providing a substrate comprising an attached biopolymer probe, and further comprising a stabilization polymer layer;
(b) contacting said substrate with a target analyte, wherein said target analyte specifically binds to said attached biopolymer probe; and
25 (c) detecting the presence of said target analyte.

16. The method of claim 15, further comprising placing said substrate in a storage location for a period of at least 24 hours prior to step (b).

17. The method of claim 16, wherein said placing said substrate in a storage
30 location further comprises placing said substrate in a package.

18. The method of claim 17, wherein said package comprises a sealed container.

5 19. The method of claim 15, wherein said providing in step (a) comprises obtaining a package comprising said substrate.

20. The method of claim 19, wherein said package is obtained from a remote location.

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21. The method of claim 19, wherein said package comprises a sealed container.

22. The method of claim 15, further comprising removing said stabilization
15 polymer layer from said substrate prior to step (b).

23. The method of claim 15, wherein said biopolymer probe comprises a polynucleotide or a polypeptide.

20 24. The method of claim 15, wherein said target analyte comprises a polynucleotide or a polypeptide.

25. The method of claim 15, wherein step (c) comprises detecting an optical
signal from said target analyte or said biopolymer probe.

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26. The method of claim 25, wherein said optical signal comprises a fluorescent signal.

27. The method of claim 15, wherein said substrate comprises an array of
30 attached biopolymer probes.

28. The method of claim 27, wherein step (b) comprises contacting said substrate with a plurality of target analytes wherein said target analytes bind to said array of attached biopolymer probes.

- 5 29. A method of detecting a target analyte, comprising
- (a) providing a substrate comprising an attached biopolymer probe;
 - (b) contacting said substrate with a first target analyte wherein said first target analyte specifically binds to said attached biopolymer probe;
 - 10 (c) detecting the presence of said first target analyte;
 - (d) removing said first target analyte;
 - (e) contacting said substrate with a stabilization polymer, thereby forming a substrate comprising said attached biopolymer probe, and further comprising a stabilization polymer layer;
 - 15 (f) contacting said substrate comprising said attached biopolymer probe, and further comprising a stabilization polymer layer with a second target analyte wherein said second target analyte specifically binds to said attached biopolymer probe; and
 - (g) detecting the presence of said second target analyte.

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30. The method of claim 29, wherein said substrate provided in step (a) further comprises a stabilization polymer layer.

31. The method of claim 29, further comprising placing said substrate in a
25 storage location for a period of at least 24 hours after step (e) and prior to step (f).

32. The method of claim 29, further comprising removing said stabilization polymer layer from said substrate prior to step (f).

33. A method of shipping a solid-phase probe, comprising
- (a) providing a substrate comprising an attached biopolymer probe, and further comprising a stabilization polymer layer;
 - (b) placing said substrate in a package; and
 - (c) shipping said package to a remote location.